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Synopsis for Ph.D. Registration

on

Impact of capital structure on the profitability of a Company :- A comparative study of TATA Steel and Bokaro Steel Ltd.

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INTRODUCTION

The capital structure of a company plays a pivotal role in determining its financial stability and long-term profitability. Capital structure refers to the mix of debt and equity used by a company to finance its operations and growth. Striking an optimal balance between these sources of funding is crucial, as it affects the company's cost of capital, risk exposure, and overall financial performance.

This study seeks to explore the impact of capital structure on the profitability of two leading players in the Indian steel sector: Tata Steel and Bokaro Steel Ltd. Tata Steel, a private sector giant with a global footprint, and Bokaro Steel Ltd., a key unit of the public sector Steel Authority of India Limited (SAIL), represent distinct organizational structures and financial strategies. By conducting a comparative analysis of these companies, the research aims to identify patterns, similarities, and differences in how capital structure decisions influence their profitability.

The study will employ financial data analysis, key performance metrics, and industry benchmarks to evaluate the relationship between debt-equity ratios, cost of capital, and profitability indicators. The findings are expected to contribute valuable insights into optimizing capital structures for firms in the steel sector and beyond, enhancing both theoretical understanding and practical applications in financial management.

CAPITAL STRUCTURE : The most important decision a company makes in pursuit of maximizing its value is typically the decision concerning what products to manufacture and/or what services to offer. The decision on how to finance investments (e.g., in factories and equipment), the so-called capital structure decision, is often seen as less important, even secondary. As we will see in this reading, the importance of the capital structure decision depends on the assumptions one makes about capital markets and the agents operating in it.

Under the most restrictive set of assumptions, the capital structure decision—the choice between how much debt and how much equity a company uses in financing its investments—is irrelevant. That is, any level of debt is as good as any other. The capital structure decision is not only secondary but also irrelevant. However, as some of the underlying assumptions are relaxed, the choice of how much debt to have in the

capital structure becomes meaningful. Under a particular set of assumptions, it is even possible to have an optimal level of debt in the capital structure—that is, a level of debt at which company value is maximized.

Dynamics of Debt and Equity

Debt investors take less risk because they have the first claim on the assets of the business in the event of bankruptcy. For this reason, they accept a lower rate of return and, thus, the firm has a lower cost of capital when it issues debt compared to equity.

Equity investors take more risk, as they only receive the residual value after debt investors have been repaid. In exchange for this risk, investors expect a higher rate of return and, therefore, the implied cost of equity is greater than that of debt.

Components of Capital Structure

The capital structure of the company is nothing but taking decision-related to the acquisition of funds from various sources and composition of debts and equity.

Followings are the multiple sources of funds which the company takes into consideration while determining its capital structure:

Shareholder's Funds

The owner's funds refer to generating capital by issuing new shares or utilizing the retained earnings to meet up the company's financial requirement. However, it is an expensive means of acquiring funds. The three sources of capital acquisition through shareholder's funds are as follows:

- **Equity Capital**: The new shares are issued to the equity shareholders who enjoy the ownership of the company are liable to get dividends in proportion to the profits earned by the company. They are also exposed to the risk of loss associated with the company.
- **Preference Capital**: The preference shareholders enjoy a fixed rate of dividends along with preferential rights of receiving the return on capital in case of the company's liquidation, over the equity shareholders. However, they have limited rights of voting and control over the company.

- **Retained Earnings**: The company sometimes utilize the funds available with it as retained earnings accumulated by keeping aside some part of the profit for business growth and expansion.

Borrowed Funds

The capital which is acquired in the form of loans from the external sources is known as borrowed funds. These are external liabilities of the firm, which leads to the payment of interests at a fixed rate. However, there is a tax deduction on such borrowings; it creates a burden on the company. Following are the various types of borrowed funds:

- **Debentures**: It is a debt instrument which the companies and the government issue to the public. Though the rate of interest is quite high on debentures, they are not by any collateral or security.
- **Term Loans**: The fund acquired by the company from the bank at a floating or fixed rate of interest is known as a term loan. This is an appropriate source of fund for the companies which have a good and strong financial position.
- **Public Deposits**: The management invite public through advertisements to create deposits in the company. It facilitates meeting up the medium or long term financial needs of the company, such as working capital requirements and enjoy a fixed rate of interest on it.

Optimal Capital Structure

The cost of debt is less expensive than equity because it is less risky. The required return needed to compensate debt investors is less than the required return needed to compensate equity investors, because interest payments have priority over dividends, and debt holders receive priority in the event of a liquidation. Debt is also cheaper than equity because companies get tax relief on interest, while dividend payments are paid out of after-tax income.

However, there is a limit to the amount of debt a company should have because an excessive amount of debt increases interest payments, the volatility of earnings, and the risk of bankruptcy. This increase in the financial risk to shareholders means that

they will require a greater return to compensate them, which increases the WACC—and lowers the market value of a business. The optimal structure involves using enough equity to mitigate the risk of being unable to pay back the debt—taking into account the variability of the business's cash flow.

Companies with consistent cash flows can tolerate a much larger debt load and will have a much higher percentage of debt in their optimal capital structure. Conversely, a company with volatile cash flows will have little debt and a large amount of equity.

Determining the Optimal Capital Structure

As it can be difficult to pinpoint the optimal capital structure, managers usually attempt to operate within a range of values. They also have to take into account the signals their financing decisions send to the market.

A company with good prospects will try to raise capital using debt rather than equity, to avoid dilution and sending any negative signals to the market. Announcements made about a company taking debt are typically seen as positive news, which is known as debt signaling. If a company raises too much capital during a given time period, the costs of debt, preferred stock, and common equity will begin to rise, and as this occurs, the marginal cost of capital will also rise.

To gauge how risky a company is, potential equity investors look at the debt/equity ratio. They also compare the amount of leverage other businesses in the same industry are using—on the assumption that these companies are operating with an optimal capital structure—to see if the company is employing an unusual amount of debt within its capital structure.

Another way to determine optimal debt-to-equity levels is to think like a bank. What is the optimal level of debt a bank is willing to lend? An analyst may also utilize other debt ratios to put the company into a credit profile using a bond rating. The default spread attached to the bond rating can then be used for the spread above the risk-free rate of a AAA-rated company.

Capital Structure Theories

Net Income Approach (NI)

According to this approach, capital structure decision is relevant to the value of the firm. An increase in financial leverage (Debt Proportion) will lead to decline in the weighted average cost of capital (WACC), while the value of the firm as well as market price of ordinary share will increase.

Traditional Approach

This approach favours that as a result of financial leverage up to some point, cost of capital comes down and value of firm increases. However, beyond that point, reverse trends emerge.

Net Operating Income Approach (NOI)

According to this approach, capital structure decisions of the firm are irrelevant. Any change in the leverage will not lead to any change in the total value of the firm and the market price of shares, as the overall cost of capital is independent of the degree of leverage.

Modiglani-Miller Approach (MM)

The NOI approach is definitional or conceptual and lacks behavioral significance. However, Modigliani-Miller approach provides behavioural justification for constant overall cost of capital and therefore, total value of the firm.

The Trade Off Theory

The trade-off theory is based on the assumption that corporations should optimize the mix of debt and equity in their capital structure to minimize their weighted average cost of capital

(WACC).

The optimal capital structure of a firm is attained when the percentage contribution from debt

and equity is optimized to maximize the value of a firm, while the cost of capital is minimized.

The trade-off theory states that the optimal capital structure is a balancing act between reaping the marginal benefit of the interest tax shield and the risk of financial distress.

Pecking Order Theory

The Pecking Order Theory, also known as the Pecking Order Model, relates to a company's capital structure . Made popular by Stewart Myers and Nicolas Majluf in 1984, the theory states that managers follow a hierarchy when considering sources of financing.

The pecking order theory states that managers display the following preference of sources to fund investment opportunities: first, through the company's retained earnings, followed by debt, and choosing equity financing as a last resort.

Cost of Capital

The role of cost of capital is very important in decision making process of financial management. The cost of capital is used for two purposes, simultaneously, firstly, a comparison of alternative sources of funds may be made to select one which has least cost and maximum contribution to wealth maximisation, secondly, to evaluate investment proposals, as it provides a benchmark to yield a minimum return. A few definitions on cost of capital are given below.

TATA STEEL[1]

Tata Steel Limited is a steel-making company having its operations in India and its operational headquarters at Jamshedpur in the state of Jharkhand and corporative office at Mumbai in Maharashtra. Some of the group companies included within the Tata group of companies are as follows.

Tata Steel was earlier called Tata Iron and Steel Company Limited – TISCO and it is among the world's largest steel makers with a crude steel production capacity of 35 million tonnes per annum. The company is one of the most geographically diversified steel makers of the whole world and has its facilities and offices around the world.

The group, except for SEA operations showed a total sales of US$31 billion for the year ended 31 march 2023. The Tata Steel is currently the biggest integrated steel producer in India in terms of production capacity with an output of more than 21 million tonnes per annum. 6 million tonnes next only to Steel Authority of India Ltd. (SAIL). Current three Indian steel giants namely Tata Steel, SAIL and Jindal Steel and Power are equipped with captive iron-ore mines and therefore enjoy a price edge over others.

It has operations in 26 countries and major presence in India, Netherlands and the UK and it has a total strength of about 80,500 people.The largest plant of SAIL has an integrated capacity of 10 MTPA which is located at Jamshedpur, in the state of Jharkhand. In 2007, Tata Steel one of the biggest steel manufacturing companies of India bought the UK based steel maker Corus. In the 2014 Fortune Global 500 list, that measures the world's largest companies, it was ranked 486th. According to Brand Finance it was the seventh most valuable Indian brand of the year 2013.
In 2022, being placed as India's Best Workplaces in Manufacturing for the fifth time, Tata Steel made it to Great Place to Work.

History-

Jamshedpur plant of Tata Steel Tata Iron and Steel Company popularly known as TISCO was promoted by Jamsetji Nusserwanji Tata and was formed by its elder son Sir Dorabji Tata on 26-August 1907. TISCO began the production of pig iron in 1911 and production of steel in 1912 and was a branch of Jamsetji's Tata Group. It may be noted that Balti gave its first steel ingot on 16th February 1912. As the First World War 1914–1918 progressed the company continued to grow at a fast pace.

The Tata Iron & Steel Company also launched the formation of The Tinplate Company of India Ltd (TCIL) in 1920 with Burmah Shell acting as its partner for manufacturing Tinplate. TCIL is now Tata Tinplate and is market leader in India with a 70% market share.

By 1939, it possessed the biggest integrated steel producer in the British Empire. In 1951 the company began a large scale modernisation and expansion programme. In fact the program was raised in 1958 to 2 Million Metric Tonnes Per Annum

(MMTPA) project. [14] By 1970, the company was expected to have staff strength of 40,000 at Jamshedpur and additional 20,000 at the neighboring coal fields.

This was according to Tata Steel's Q2 FY 2021-22 earnings that revealed the company was the most profitable in the Tata Group in November 2021. [17] July 2019 the company Tata Steel Kalinganaru(TSK) was the latest company to join the WEF's Global Lighthouse Network.

BOKARO STEEL(SAIL)[2]

Bokaro Steel Plant - the fourth integrated plant in the Public Sector - started taking shape in 1965 in collaboration with the Soviet Union. It was originally incorporated as a limited company on 29th January 1964, and was later merged with SAIL, first as a subsidiary and then as a unit, through the Public Sector Iron & Steel Companies (Restructuring & Miscellaneous Provisions) Act 1978. The construction work started on 6th April 1968.

The Plant is hailed as the country's first Swadeshi Steel Plant, built with maximum indigenous content in terms of equipment, material and know-how. Its first Blast Furnace started on 2nd October 1972 and the first phase of 1.7 MT Ingot steel was completed on 26th February 1978 with the commissioning of the third Blast Furnace. All units of 4 MT stage have already been commissioned and the modernisation taken subsequently has further upgraded this to 4.65 MT of liquid steel.

Bokaro is designed to produce flat products like Hot Rolled Coils, Hot Rolled Plates, Hot Rolled Sheets, Cold Rolled Coils, Cold Rolled Sheets, Tin Mill Black Plates (TMBP) and Galvanised Plain and Corrugated (GP/GC) Sheets. Bokaro Steel has provided a strong raw material base for a variety of modern engineering industries including automobile, pipe and tube, LPG cylinder, barrel and drum producing industries.

A new hydraulic coiler has been added and two of the existing ones revamped. With the completion of Hot Strip Mill modernisation, Bokaro is producing top quality hot rolled products that are well accepted in the global market.

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Bokaro Steel values its people as the fulcrum of all organisational activities. The saga of Bokaro Steel is the story of Bokaroans erecting a gigantic plant in the wilderness of Chotanagpur, reaching milestones one after another, staving off stiff challenges in the liberalised era, modernising its facilities and innovating their way to the top of the heap

LITEREATURE REVIEW

Julia Bistrova(2011)[3]-The main objective of the present paper is to analyze the impact of capital structure decisions on the equity performance and on the profitability of the companies located in Baltics. The study covered the time period of 4 years (from 2007 till 2010) and the sample data of 36 "blue-chip" companies listed on the Baltic Stock exchanges. The results of the study discover positive relationship between stock performance and sufficiency of equity capital. Besides, there was found an inverse relationship between the level of debt and capital profitability confirming the pecking order theory that in the best case the company should use self-generated funds.

Nagendra Marisetty(2018)[4]: This paper attempts to identify the relevance of capital structure on the profitability of ten BSE SENSEX companies from different industries for ten years from 2007 to 2016. The data has been analyzed using debt-equity ratios, profitability ratios, and descriptive statistics like mean, standard deviation, skewness, covariance, and correlation. Two tail t-test has been used to measure the correlation between the debt-equity ratio and other profitability ratios.

Philip Arthur(2019)[5]: This research sets out to assess the impact of capital structure on the competitiveness of the manufacturing industry in Ghana using some selected firms as the case study for the period between 2005-2012 to provide a critical assessment of the need and value of capital structure. Utilizing a mixed research approach as methodology, thus descriptive statistics and correlation analysis amidst the fixed effect model, the findings revealed that short term debt and long term debt had a negative impact on productivity whilst equity was positively related to

profitability. The study recommends that Ghanaian-based manufacturing companies use equity such as retained earnings to expand their business rather than debt financing.

Henry Broto Seno(2020)[6]:These research aims to find out those impact from capital structure, profitability, liquidity, activity and company size on firm value. The population in this research were building construction sub-sector companies which registered in Indonesia Stock Exchange during period 2012 till 2018. The samples were determined by purposive sampling technique. These data analysis method used was panel data regression analysis. The selected mode used Fixed Effect Model. The results showed that capital structure, profitability, liquidity, activity and company size simultaneously had an impact on company value. Partially it was found that capital structure and profitability had positive influence on company value, activity and company size had negative influence on company value, while liquidity had none impact towards company value. The most influential variable was profitability with coefficient value was 43.38.

Nursetya(2020)[7]: The relationship between firm size and capital structure on firm value has been a topic of interest in the field of management and finance. Nursetya and Hidayati (2020) explored how firm size and capital structure affect firm value, highlighting the importance of understanding these factors in determining a company's overall worth. Additionally, Nursetya and Hidayati (2020) emphasized the role of profitability in mediating the relationship between capital structure and firm value, suggesting that profitability plays a crucial role in determining the impact of capital structure on firm value. Furthermore, Nursetya and Hidayati (2020) discussed the impact of debt management on profitability and company value, indicating that effective debt management strategies can influence a company's profitability and overall value. This suggests that firms need to carefully consider their capital structure decisions to optimize their value in the market. In a related study, Nursetya and Hidayati (2020) examined the influence of non-performing financing and financing on firm value, further emphasizing the importance of understanding how different financial factors can impact a company's overall worth. This highlights the complexity of factors that can influence firm value and the need for companies to carefully consider their financial decisions to maximize their value in the market.

Overall, the literature suggests that firm size and capital structure play a significant role in determining firm value, with profitability and debt management also influencing a company's overall worth. By understanding these relationships and making informed financial decisions, companies can optimize their value and position themselves for success in the market (Nursetya & Hidayati, 2020).

Research Gap

Despite extensive research on how capital structure affects company performance, notable gaps persist. Most existing studies focus on a diverse range of industries or geographical regions, with limited attention given specifically to the steel industry. This sector has distinct characteristics, including high capital requirements, volatile commodity prices, and cyclical demand. Furthermore, previous research often fails to consider the unique financial and strategic complexities of major companies like Tata Steel and Bokaro steel are global leader with intricate capital structures and significant leverage. This study aims to fill this gap by conducting a case study on Tata Steel to provide a detailed analysis of how its capital structure choices influence its profitability. Additionally, there is a scarcity of research that directly compares the capital structure-profitability link of individual companies against their industry peers, which this study addresses by examining Tata Steel and Bokaro steel in relation to its competitors. This approach offers a more nuanced comparison, highlighting both industry-specific patterns and company-specific tactics. Finally, the existing literature does not consistently agree on how financial leverage impacts profitability, with findings varying between positive, negative, or negligible effects. This inconsistency underscores the need for further exploration of firm-specific factors that shape these outcomes.

Significance of the Study

This study holds significant value as it provides crucial insights into the relationship between capital structure and profitability, specifically focusing on Tata Steel and Bokaro steel, a key player in the global steel industry. By analyzing the company's financial leverage and its effect on performance, the research offers essential information to stakeholders, such as investors, financial analysts, and corporate managers, highlighting how capital structure choices can impact a firm’s financial well-being. This understanding is especially vital for Tata Steel and Bokaro steel,

given its substantial debt levels and the cyclical nature of the steel industry. The findings of the study can inform strategic financial decisions, enabling Tata Steel and and Bokaro steel to optimize their capital structures, boost profitability, and remain competitive. Furthermore, the research compares Tata Steel and Bokaro steel's financial performance with that of its industry peers, providing a benchmark analysis that can help identify best practices and strategic discrepancies. The study also enriches the academic field by addressing existing literature gaps, particularly concerning the role of leverage in profitability within capital-intensive sectors. Ultimately, this research has the potential to influence not only company-specific financial strategies but also broader industry-wide management practices, promoting better capital allocation and enhanced performance across the sector.

OBJECTIVE OF THE STUDY

1. To examine the impact of capital structure on the profitability of Tata Steel and Bokaro Steel Ltd.
2. To compare the relationship between capital structure and profitability in Tata Steel and Bokaro Steel Ltd.
3. To analyze the differences in the financial strategies of Tata Steel and Bokaro Steel Ltd. concerning capital structure.
4. To evaluate the financial performance of Tata Steel and Bokaro Steel Ltd. concerning their capital structure.
5. To identify the key determinants of capital structure for Tata Steel and Bokaro Steel Ltd.
6. To explore the role of leverage in influencing profitability in Tata Steel and Bokaro Steel Ltd

Hypothesis of the study

$H1_1$: The capital structure has a significant influence on the profitability of Tata Steel

$H0_1$The capital structure has no significant influence on the profitability of Tata Steel

$H1_2$: The capital structure has a significantl influence the profitability of Bokaro Steel Ltd.

$H0_2$: : The capital structure has no significant influence the profitability of Bokaro Steel Ltd.

Research Methodology

Research Design:

The study will adopt a descriptive and analytical research design.

Descriptive analysis will provide an overview of the financial performance and capital structure of Tata Steel and Bokaro Steel Ltd.

Analytical analysis will investigate the impact of capital structure on profitability metrics.

Sample and Data Collection:

The sample will include Tata Steel and Bokaro Steel Ltd.

Secondary data will be collected from annual reports, financial statements, and industry publications spanning a specified period (e.g., 10 years).

Financial databases (e.g., CMIE Prowess, Bloomberg) will also be consulted.

Variables:

Independent Variable: Capital Structure (e.g., Debt-Equity Ratio, Debt to Assets Ratio).

Dependent Variable: Profitability (e.g., Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin (NPM)).

Data Analysis Techniques:

Ratio analysis for capital structure and profitability indicators.

Statistical tools like correlation and regression analysis to assess the relationship between capital structure and profitability.

Comparative analysis to evaluate differences between Tata Steel and Bokaro Steel Ltd

Hypothesis Testing

Hypotheses will be tested using statistical significance tests (e.g., t-tests, F-tests) to validate the impact of capital structure on profitability.

Limitation of the Study

A study of long term financing and its impact on corporate capital structure of tata steel may have several limitations including:-

1.**Limited Access to Firm-Level Data**: Not all firms publicly disclose detailed information on their financing decisions, especially for privately held firms. This may restrict the scope of the study to publicly traded companies, potentially limiting the generalizability of the findings.

2.**Historical Data Gaps**: Long-term finance and capital structure decisions are inherently historical in nature, and data from past years might be incomplete, inconsistent, or unavailable, particularly for smaller firms or firms in emerging markets.

3.**Data Quality**: Corporate financial data can sometimes be inconsistent due to differences in accounting standards, regulatory requirements, or reporting practices across countries and industries.

4.**Causality Dilemmas**: Establishing clear causality between long-term finance and corporate capital structure can be challenging. For instance, a firm's capital structure might determine its access to long-term finance, but long-term finance could also shape capital structure. Endogeneity, where independent and dependent variables may influence each other, could complicate the analysis.

5.**Confounding Variables**: There may be unobserved factors influencing both long-term finance decisions and capital structure, such as managerial quality, firm culture, or specific strategic decisions, which are difficult to measure or control for.

6.**Geographical Constraints**: If the study is focused on firms in a specific country or region, it may not account for differences in legal, regulatory, and financial environments in other regions, reducing the applicability of the findings to a global context.

7.**Regulatory Changes**: The study period might coincide with significant changes in tax policies, financial market regulations, or government interventions (e.g., financial stimulus packages). Such shifts can drastically alter firms' financing options and their capital structure, making it difficult to generalize findings over time.

Tentative Chapterisation

Chapter 1: Introduction and Review of Literature

Chapter 2: Overview of Tata Steel and Bokaro Steel

Chapter 3: Analysis of Capital Structure and Profitability

Chapter 4: Impact of Capital Structure on Profitability

Chapter 5: Findings and Discussion

Chapter 6: Conclusion and Recommendations

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